Listing of Claims:

1. (Previously Presented) An image processing apparatus, comprising:

an exposing device for exposing a thermally developable image forming material so as to form a latent image on the image forming material based on image data;

a thermal developing device for thermally developing and visualizing the latent image on the exposed image forming material so as to form an image;

a measuring device for measuring an image density of the image on the developed image forming material;

a calibrating device for forming a table to define a relation between an image signal and image density thereof based on a plurality of different test image data and measured image densities thereof;

a storing device for storing characteristic change model data indicating a characteristic change of the thermal developing device over time after starting of operation of the image processing apparatus;

a difference calculating device to calculate, each time an image is formed based on an image signal corresponding to diagnostic image data, a density difference between an image density at a time at which the table was formed and an image

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density at a time at which the image is formed based on the image

signal corresponding to the diagnostic image data, said

25   calculation of the density difference being performed based on

the characteristic change model data; and

a correcting device for correcting the table based on the

density difference calculated by the difference calculating

device.

2.   (Previously Presented) The image processing apparatus of

claim 1, wherein said characteristic change model data indicates

the characteristic change starting from a time at which a power

source of the image processing apparatus is turned on.

3.   (Previously Presented) The image processing apparatus of

claim 1, wherein the characteristic change model data comprises

predetermined characteristic change model data installed from

outside the image processing apparatus.

4.   (Previously Presented) The image processing apparatus of

claim 1, wherein the characteristic change model data comprises

actual characteristic change model data obtained based on image

densities measured by the measuring device each time any said

5   image forming material is processed.

5.   (Currently Amended) An image processing apparatus,
comprising:

an exposing device for exposing a thermally developable
image forming material so as to form a latent image on the image
5   forming material based on image data;

a thermal developing device for thermally developing and
visualizing the latent image on the exposed image forming
material so as to form an image;

a measuring device for measuring an image density of the
10   image on the developed image forming material;

a calibrating device for forming a table to define a
relation between an image signal and an image density thereof
based on a plurality of different test image data and measured
image densities thereof;

15   a storing device for storing passage-time film
characteristic model data indicating a change over time of a
characteristic of the image forming material after loading of the
image forming material in the image processing apparatus and for
storing result data obtained by exposing a part of the image
20   forming material with a light quantity that corresponds to a
predetermined density according to the table at a time of forming
a diagnosis image and by measuring a density at said part of the
image forming material;

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a difference calculating device to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, a density difference between an image
density at a time at which the table was formed and an image
density at a time at which the image is formed based on the image
signal corresponding to the diagnostic image data, said
calculation of the density difference being performed based on
the passage-time film characteristic model data; ~~and~~

a correcting device for correcting the table based on the
density difference calculated by the difference calculating
device;

 a first controlling device for controlling at least one of
the exposing device and the developing device so as to offset a
characteristic change of at least one of the exposing device and
the developing device;

 a first estimation device for calculating and keeping a
characteristic change of the image forming material based on the
stored result data; and

 a second controlling device for controlling a least one of
the exposing device and the developing device based on the
characteristic change of the image forming material calculated by
the first estimation device instead of the stored passage-time
film characteristic model data so as to offset the characteristic
change of the image forming material.

Claim 6 (Cancelled).

7.   (Currently Amended) The image processing apparatus of claim 6 5, further comprising:

a clearing device for clearing the characteristic change calculated by the first estimation device when the table is prepared by the calibrating device and when the second controlling device is operated.

8.   (Currently Amended) The image processing apparatus of claim 7 5, wherein the first controlling device and the second controlling device are operated when an image formation operation is resumed after the image processing apparatus has been stopped for a period of time that is not shorter than a predetermined time.

9.   (Currently Amended) The image processing apparatus of claim 6 5, wherein said first estimation device calculates and keeps a characteristic change of the image forming material every time the image processing apparatus stops for a predetermined period of time.

Claims 10-13 (Cancelled).

14.   (Previously Presented) An image processing apparatus,
comprising:

an exposing device for exposing a thermally developable
5   image forming material so as to form a latent image on the image
forming material based on image data;

a thermal developing device for thermally developing and
visualizing the latent image on the exposed image forming
material so as to form an image;

10   a measuring device for measuring an image density of the
image on the developed image forming material;

a calibrating device for forming a table to define a
relation between an image signal and an image density thereof
based on a plurality of different test image data and measured
15   image densities thereof;

a first storing device for storing characteristic change
model data indicating changes over time of a characteristic of
the thermal developing device after starting of operation of the
image processing apparatus;

20   a second storing device for storing passage-time film
characteristic model data indicating a change over time of a
characteristic of the image forming material after loading of the
image forming material in the image processing apparatus; and

a difference calculating device to calculate, each time an
25   image is formed based on an image signal corresponding to

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diagnostic image data, a density difference between an image

density at a time at which the table was formed and an image

density at a time at which the image is formed based on the image

signal corresponding to the diagnostic image data, said

30   calculation of the density difference being performed based on

the characteristic change model data and the passage-time film

characteristic model data; and

        a correcting device for correcting the table based on the

density difference calculated by the difference calculating

35   device.

        15.   (Previously Presented) The image processing apparatus

of claim 14, wherein said characteristic change model data

indicates the characteristic change starting from a point of time

at which a power source of the image processing apparatus is

5   turned on.

        16.   (Previously Presented) A method of image processing

with an image processing apparatus, comprising:

        exposing a thermally developable image forming material so

as to form a latent image on the image forming material based on

5   image data;

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thermally developing and visualizing, with a thermal developing device, the latent image on the exposed image forming material so as to form an image;

measuring an image density of the image on the developed image forming material;

forming a table to define a relation between an image signal and image density thereof based on a plurality of different test image data and measured image densities thereof;

storing characteristic change model data indicating a characteristic change of the thermal developing device over time after starting of operation of the image processing apparatus;

calculating, each time an image is formed based on an image signal corresponding to diagnostic image data, a density difference between an image density at a time at which the table was formed and an image density at a time at which the image is formed based on the image signal corresponding to the diagnostic image data, said calculation of the density difference being performed based on the characteristic change model data; and

correcting the table based on the calculated density difference.

17.   (Previously Presented) The method of claim 16, wherein the characteristic change model data indicates the characteristic

change starting from a time at which a power source of the image

processing apparatus is turned on.

18.   (Previously Presented) The method of claim 16, wherein

said characteristic change model data comprises predetermined

characteristic change model data installed from outside the image

processing apparatus.

19.   (Previously Presented) The method of claim 16, wherein

said characteristic change model data comprises actual

characteristic change model data obtained based on image

densities measured by the measuring device each time any said

5   image forming material is processed.

20.   (Currently Amended) A method of image processing with

an image processing apparatus, comprising:

    exposing, with an exposing device, a thermally developable

image forming material so as to form a latent image on the image

5   forming material based on image data;

    thermally developing and visualizing, with a thermal

developing device, the latent image on the exposed image forming

material so as to form an image;

    measuring an image density of the image on the developed

10   image forming material;

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forming a table to define a relation between an image signal and an image density thereof based on a plurality of different test image data and measured image densities thereof;

storing passage-time film characteristic model data indicating a change over time of a characteristic of the image forming material after loading of the image forming material in the image processing apparatus;

calculating, each time an image is formed based on an image signal corresponding to diagnostic image data, a density difference between an image density at a time at which the table was formed and an image density at a time at which the image is formed based on the image signal corresponding to the diagnostic image data, said calculation of the density difference being performed based on the passage-time film characteristic model data; ~~and~~

correcting the table based on the calculated density difference;

storing result data obtained by exposing a part of the image forming material with a light quantity that corresponds to a predetermined density according to the table at a time of forming a diagnosis image and by measuring a density at said part of the image forming material;

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    <u>controlling at least one of the exposing device and the</u>
<u>developing device so as to offset a characteristic change of at</u>
<u>least one of the exposing device and the developing device;</u>
    <u>calculating and keeping a characteristic change of the image</u>
<u>forming material based on the stored result data; and</u>
    <u>controlling at least one of the exposing device and the</u>
<u>developing device based on the calculated characteristic change</u>
<u>of the image forming material instead of the stored passage-time</u>
<u>film characteristic model data so as to offset the characteristic</u>
<u>change of the image forming material</u>.

    Claim 21 (Cancelled).

    22.   (Currently Amended) The method of claim ~~21~~ <u>20</u>, further
comprising:

    clearing the calculated characteristic change of the image
forming material when the table is prepared and when the at least

5   one of the exposing device and the developing device are
controlled based on the calculated characteristic change of the
image forming material.

    23.   (Currently Amended) The method of claim ~~21~~ <u>20</u>, wherein
the controlling steps are carried out when an image processing
operation is resumed after the image processing apparatus has

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been stopped for a period of time that is not shorter than a

5   predetermined time.

24.   (Currently Amended) The method of claim ~~21~~ 20, wherein

a characteristic change of the image forming material is

calculated and kept every time the image processing apparatus

stops for a predetermined period of time.

Claims 25-28 (Cancelled).

29.   (Previously Presented) A method of image processing

with an image processing apparatus, comprising:

exposing a thermally developable image forming material so

as to form a latent image on the image forming material based on

5   image data;

thermally developing and visualizing, with a thermal

developing device, the latent image on the exposed image forming

material so as to form an image;

measuring an image density of the image on the developed

10   image forming material;

forming a table to define a relation between an image signal

and an image density thereof based on a plurality of different

test image data and measured image densities thereof;

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storing characteristic change model data indicating changes
15   over time of a characteristic of a thermal developing device
after starting of operation of the image processing apparatus;

storing passage-time film characteristic model data
indicating a change over time of a characteristic of the image
forming material after loading of the image forming material in
20   the image processing apparatus; and

calculating, each time an image is formed based on an image
signal corresponding to diagnostic image data, a density
difference between an image density at a time at which the table
was formed and an image density at a time at which the image is
25   formed based on the image signal corresponding to the diagnostic
image data, said calculation of the density difference being
performed based on the characteristic change model data and the
passage-time film characteristic model data; and

correcting the table based on the calculated density
30   difference.

30.   (Previously Presented) The method of claim 29, wherein
the characteristic change model data indicates the characteristic
change starting from a time at which a power source of the image
processing apparatus is turned on.

31.   (Previously Presented) A computer-readable recording medium having a computer program stored thereon to be executed by a computer to cause the computer to control an image processor to execute functions comprising:

an exposing function for exposing a thermally developable image forming material so as to form a latent image on the image forming material based on image data;

a thermal developing function for thermally developing and visualizing, with a thermal developing device, the latent image on the exposed image forming material so as to form an image;

a measuring function for measuring an image density of the image on the developed image forming material;

a calibrating function for forming a table to define a relation between an image signal and image density thereof based on a plurality of different test image data and measured image densities thereof;

a storing function for storing characteristic change model data indicating a characteristic change of the thermal developing device over time after starting of operation of the image processor;

a difference calculating function to calculate, each time an image is formed based on an image signal corresponding to diagnostic image data, a density difference between an image density at a time at which the table was formed and an image

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25   density at a time at which the image is formed based on the image

signal corresponding to the diagnostic image data, said

calculation of the density difference being performed based on

the characteristic change model data; and

a correcting function for correcting the table based on the

30   density difference calculated by the difference calculating

function.

32.   (Previously Presented) The computer-readable recording

medium of claim 31, wherein the characteristic change model data

indicates the characteristic change starting from a time at which

a power source of the image processor is turned on.

33.   (Previously Presented) The computer-readable recording

medium of claim 31, wherein said characteristic change model data

comprises predetermined characteristic change model data

installed from outside the image processor.

34.   (Previously Presented) The computer-readable recording

medium of claim 31, wherein said characteristic change model data

comprises actual characteristic change model data obtained based

on image densities measured by the measuring function each time

5   any said image forming material is processed.

35.   (Currently Amended) A computer-readable recording
medium having a computer program stored thereon to be executed by
a computer to cause the computer to control an image processor to
execute functions comprising:

5   an exposing function, with an exposing device, for exposing
a thermally developable image forming material so as to form a
latent image on the image forming material based on image data;

        a developing function for thermally developing and
visualizing, with a thermal developing device, the latent image
10   on the exposed image forming material so as to form an image;

        a measuring function for measuring an image density of the
image on the developed image forming material;

        a calibrating function for forming a table to define a
relation between an image signal and an image density thereof
15   based on a plurality of different test image data and measured
image densities thereof;

        a storing function for storing passage-time film
characteristic model data indicating a change over time of a
characteristic of the image forming material after loading of the
20   image forming material in the image processor;

        a difference calculating function to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, a density difference between an image
density at a time at which the table was formed and an image

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25   density at a time at which the image is formed based on the image

signal corresponding to the diagnostic image data, said

calculation of the density difference being performed based on

the passage-time film characteristic model data; ~~and~~

      a correcting function for correcting the table based on the

30   density difference calculated by the difference calculating

function<u>;</u>

      <u>a further storing function for storing result data obtained</u>

<u>by exposing a part of the image forming material with a light</u>

<u>quantity that corresponds to a predetermined density according to</u>

35   <u>the table at a time of forming a diagnosis image and by measuring</u>

<u>a density at said part of the image forming material;</u>

      <u>a first controlling function for controlling at least one of</u>

<u>the exposing device and the developing device so as to offset a</u>

<u>characteristic change of at least one of the exposing device and</u>

40   <u>the developing device;</u>

      <u>a first estimating function for calculating and keeping a</u>

<u>characteristic change of the image forming material based on the</u>

<u>stored result data; and</u>

      <u>a second controlling function for controlling at least one</u>

45   <u>of the exposing device and the developing device based on the</u>

<u>calculated characteristic change of the image forming material</u>

<u>instead of the stored passage-time film characteristic model data</u>

so as to offset the characteristic change of the image forming

material.

Claim 36 (Cancelled).

37.   (Currently Amended) The computer-readable recording

medium of claim ~~36~~ 35, wherein the image processor is controlled

to perform further functions comprising:

a clearing function for clearing the characteristic change

5   calculated by the first estimating function when the table is

prepared by the calibration function and when the second

controlling is performed.

38.   (Currently Amended) The computer-readable recording

medium of claim ~~36~~ 35, wherein the first controlling function and

the second controlling function are carried out when an image

processing operation is resumed after the image processor has

5   been stopped for a period of time that is not shorter than a

predetermined time.

39.   (Currently Amended) The computer-readable recording

medium of claim ~~36~~ 35, wherein said first estimation function

calculates and keeps a characteristic change of the image forming

material every time the image processor stops for a predetermined
period of time.

Claims 40-43 (Cancelled).

44.   (Previously Presented) A computer-readable recording
medium having a computer program stored thereon to be executed by
a computer to cause the computer to control an image processor to
execute functions comprising:

5   an exposing function for exposing a thermally developable
image forming material so as to form a latent image on the image
forming material based on image data;

a developing function for developing and visualizing, with a
thermal developing device, the latent image on the exposed image
10   forming material so as to form an image;

a measuring function for measuring an image density of the
image on the developed image forming material;

a calibrating function for forming a table to define a
relation between an image signal and an image density thereof
15   based on a plurality of different test image data and measured
image densities thereof;

a first storing function for storing characteristic change
model data indicating changes over time of a characteristic of

the thermal developing device after starting of operation of the

20   image processor;

a second storing function for storing passage-time film

characteristic model data indicating a change over time of a

characteristic of the image forming material after loading of the

image forming material in the image processor; and

25   a difference calculating function to calculate, each time an

image is formed based on an image signal corresponding to

diagnostic image data, a density difference between an image

density at a time at which the table was formed and an image

density at a time at which the image is formed based on the image

30   signal corresponding to the diagnostic image data, said

calculation of the density difference being performed based on

the characteristic change model data and the passage-time film

characteristic model data; and

a correcting function for correcting the table based on the

35   density difference calculated by the difference calculating

function.

45.   (Previously Presented) The computer-readable recording

medium of claim 44, wherein the characteristic change model data

indicates the characteristic change starting from a time at which

a power source of the image processor is turned on.

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46. (Previously Presented) An image processing apparatus, comprising:

an exposing device for exposing an image forming material so as to form a latent image on the image forming material based on image data;

a developing device for developing and visualizing the latent image on the exposed image forming material so as to form an image;

a measuring device for measuring an image density of the image on the developed image forming material;

a calibrating device for forming a table to define a relation between an image signal and an image density thereof based on a plurality of different test image data and measured image densities thereof;

a storing device for storing passage-time film characteristic model data that indicates a change over time of a characteristic of the image forming material;

a difference calculating device to calculate a density difference, based on the passage-time film characteristic model data, between an image density at a time at which the table was formed and an image density at a time at which an image is formed based on an image signal corresponding to diagnostic image data; and

a correcting device for correcting the table based on the

25   density difference calculated by the difference calculating

device;

wherein said storing device stores result data obtained by

exposing a part of the image forming material with a light

quantity that corresponds to a predetermined density according to

30   the table at a time of forming a diagnosis image and by measuring

a density on said part of the image forming material; and

wherein the image processing apparatus further comprises:

a holder for holding the image forming material;

a first controlling device for controlling at least one

35   of the exposing device and the developing device so as to offset

a characteristic change of at least one of the exposing device

and the developing device;

a third controlling device for controlling, during a

predetermined period of time after loading the holder to the

40   image processing apparatus, at least one of the exposing device

and the developing device based on a difference between the

density measured at said part of the image forming material and a

predetermined density for comparison;

a second estimation device for calculating and keeping

45   a characteristic change of the image forming material based on an

amount of the control carried out lastly in said third

controlling device and the stored result data; and

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a fourth controlling device for controlling, if the

predetermined period of time after loading the holder to the

50 image processing apparatus has elapsed, at least one of the

exposing device and the developing device based on the

characteristic change of the image forming material calculated by

the second estimation device instead of stored passage-time film

characteristic model data in so as to offset the characteristic

55 change of the image forming material.

47. (Previously Presented) The image processing apparatus

of claim 46, further comprising:

a clearing device for clearing the characteristic change

calculated by the second estimation device when the table is

5 prepared by the calibrating device and when the fourth

controlling device is operated.

48. (Previously Presented) The image processing apparatus

of claim 46, wherein the first controlling device and the fourth

controlling device are operated when an image formation operation

is resumed after the image processing apparatus has been stopped

for a period of time not shorter than a predetermined time.

49. (Previously Presented) The image processing apparatus

of claim 46, wherein said second estimation device calculates and

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keeps a characteristic change of the image forming material every
time the image processing apparatus stops for a predetermined
period of time.

50. (Previously Presented) A method of image processing with
an image processing apparatus, comprising:

exposing, with an exposing device, an image forming material
so as to form a latent image on the image forming material based
on image data;

developing and visualizing, with a developing device, the
latent image on the exposed image forming material so as to form
an image;

measuring an image density of the image on the developed
image forming material;

forming a table to define a relation between an image signal
and an image density thereof based on a plurality of different
test image data and measured image densities thereof;

storing passage-time film characteristic model data that
indicates a change over time of a characteristic of the image
forming material;

calculating a density difference, based on the passage-time
film characteristic model, between an image density at a time at
which the table was formed and an image density at a time at

20   which an image is formed based on an image signal corresponding

      to diagnostic image data;

            correcting the table based on the calculated density

      difference calculated by the difference calculating;

            storing result data obtained by exposing a part of the image

25   forming material with a light quantity that corresponds to a

      predetermined density according to the table at a time of forming

      a diagnosis image and by measuring a density at said part of the

      image forming material;

            loading a holder which holds the image forming material to

30   the image processing apparatus;

            controlling at least one of the exposing device and the

      developing device so as to offset a characteristic change of at

      least one of the exposing device and the developing device;

            controlling, during a predetermined period of time after

35   loading the holder to the image processing apparatus, at least

      one of the exposing device and the developing device based on a

      difference between the density measured at said part of the image

      forming material and a predetermined density for comparison;

            calculating and keeping a characteristic change of the image

40   forming material based on an amount of the control carried out

      lastly in the controlling performed based on the measured density

      and the density for comparison, and the stored result data; and

controlling at least one of the exposing device and the
developing device based on the calculated characteristic change
45   of the image forming material, instead of the stored passage-time
film characteristic model data so as to offset the characteristic
change of the image forming material.

51.   (Previously Presented) The method of claim 50, further
comprising:

clearing the characteristic change of the image forming
material when the table is prepared and when the at least one of
5   the exposing device and the developing device are controlled
based on the calculated characteristic change of the image
forming material.

52.   (Previously Presented) The method of claim 50, wherein
when an image formation operation is resumed after the image
processing apparatus has been stopped for a period of time that
is not shorter than a predetermined time, (i) the controlling the
5   at least one of the exposing device and the developing device
so as to offset the a characteristic change of at least one of
the exposing device and the developing device, and (ii) the
controlling the at least one of the exposing device and the
developing device based on the calculated characteristic change
10   of the image forming material are both carried out.

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53.   (Previously Presented) The method of claim 50, wherein
a characteristic change of the image forming material is
calculated and kept every time the image processing apparatus
stops for a predetermined period of time.

54. (Previously Presented) A computer-readable recording
medium having a computer program stored thereon to be executed by
a computer to cause the computer to control an image processor to
execute functions comprising:

5   an exposing function for exposing, with an exposing device,
an image forming material so as to form a latent image on the
image forming material based on image data;

a developing function for developing and visualizing, with a
developing device, the latent image on the exposed image forming

10   material so as to form an image;

a measuring function for measuring an image density of the
image on the developed image forming material;

a calibrating function for forming a table to define a
relation between an image signal and an image density thereof

15   based on a plurality of different test image data and measured
image densities thereof;

a storing function for storing passage-time film
characteristic model data that indicates a change over time of a
characteristic of the image forming material; and

20   a difference calculating function to calculate a density
difference, based on the passage-time film characteristic model
data, between an image density at a time at which the table was
formed and an image density at a time at which an image is formed
based on image signal corresponding to diagnostic image data; and

25   a correcting function for correcting the table based on the
density difference calculated by the difference calculating
function;

a further storing function for storing result data obtained
by exposing a part of the image forming material with a light
30   quantity that corresponds to a predetermined density according to
the table at a time of forming a diagnosis image and by measuring
a density on said part of the image forming material;

a loading function for loading for a holder which holds the
image forming material to the image processor;

35   a first controlling function for controlling at least one of
the exposing device and the developing device so as to offset a
characteristic change of at least one of the exposing device and
the developing device;

a third controlling function for controlling, during a
40   predetermined period of time after loading the holder to the

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image processor, at least one of the exposing device and the
developing device based on a difference between the density
measured at said part of the image forming material and a
predetermined density for comparison;

45   a second estimating function for calculating and keeping a
characteristic change of the image forming material based on an
amount of the control carried out lastly in the third controlling
function of and the stored result data; and

          a fourth controlling function for controlling, if the
50   predetermined period of time after loading the holder to the
image processor has elapsed, at least one of the exposing device
and the developing device based on the characteristic change
calculated in the second estimating function instead of the
stored passage-time film characteristic model data so as to
55   offset the characteristic change of the image forming material.

          55.   (Previously Presented) The computer-readable recording
medium of claim 54, wherein the image processor is controlled to
perform further functions comprising:

          a clearing function for clearing the characteristic change
5   calculated by the second estimating function when the table is
prepared by the calibrating function and when the fourth
controlling is performed.

56.   (Previously Presented) The computer-readable recording medium of claim 54, wherein the first controlling function and the fourth controlling function are carried out when an image formation operation is resumed after the the image processor has been stopped for a period of time not shorter than a predetermined time.

57.   (Previously Presented) The computer-readable recording medium of claim 54, wherein said second estimation function calculates and keeps a characteristic change of the image forming material every time the image processor stops for a predetermined period of time.